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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/550,818

09/23/2005

Michel Baylot

33900-183PUS

1789

27799

7590

09/23/2008

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EXAMINER

VENNE, DANIEL V

ART UNIT

PAPER NUMBER

3617

MAIL DATE

DELIVERY MODE

09/23/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/550,818	Applicant(s) BAYLOT ET AL.	
	Examiner DANIEL V. VENNE	Art Unit 3617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 September 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 38-74 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 49-69 and 74 is/are allowed.
- 6) ☒ Claim(s) 38-48 and 70-73 is/are rejected.
- 7) ☒ Claim(s) 70-73 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 September 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☒ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 9/4/2008 has been entered.
2. Claims 38, 41, 42, 44, 45, 47, 48, 67, 70, 71 and 74 are amended.
3. Claims 1-37 are canceled.

Specification

4. The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT.
- (e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC.
- (f) BACKGROUND OF THE INVENTION.
 - (1) Field of the Invention.
 - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (g) BRIEF SUMMARY OF THE INVENTION.
- (h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (i) DETAILED DESCRIPTION OF THE INVENTION.

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- (j) CLAIM OR CLAIMS (commencing on a separate sheet).
- (k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (l) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

Claim Objections

5. Claims 70-73 are objected to because of the following informality: The term "leaktight" is not a word and should be replaced with -- leak-tight -- or -- leak tight --. Appropriate correction is required.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:
- The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
7. Claims 38-48 and 70-73 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
8. Claims 38-48 recite the limitation "the underwater depth" in line 6 of claim 38. There is insufficient antecedent basis for this limitation in the claim. It is also not clear what underwater depth the buoyancy element is immersed, since no underwater depth or range of underwater depths has been defined in the claim.
9. Claim 43 recites the limitation "said compound" in line 2. There is insufficient antecedent basis for this limitation in the claim.
10. Claims 70-73 recite the limitations "the surface", "the bed", "the sea", "the cable", "the length", "the speed", "the bottom portion", "the lowering", "the sum", "the weight",

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"the fraction", "the lowest point", "the buoyancy element", "the buoyancy thrust", "the at least on leaktight compartment", "the vicinity", "the base" and "said substantially horizontal structure". There is insufficient antecedent basis for these limitations.

11. Claim 71 recites the limitation "the desired depth". There is insufficient antecedent basis for this limitation in the claim.

12. Claims 72-73 recite the limitations "the vicinity" and "said fastening elements". There is insufficient antecedent basis for these limitations in the claim.

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. Claims 38-45, 47 and 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bennett (US 4183316). Bennett discloses an underwater buoyancy element [12], comprising a casing [14] and a buoyancy fluid [16] having a density that is less than that of seawater, and that is confined in the casing. Bennett does not explicitly disclose that the buoyancy fluid is naturally in a gaseous state at ambient atmospheric temperature and pressure, and naturally in an entirely liquid state at the underwater depth to which the buoyancy element is immersed, nor does Bennett explicitly disclose the compressibility, depth limitations or the specific fluid characteristics recited.

However, it is noted that applicant discloses in paragraphs [0022] and [0023] of the published application that the buoyancy fluid is a known compound commonly referred

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to as liquefied gas, and also discloses in paragraph [0035] of the published specification that the compounds selected are easily available on the market. Therefore, it would have been obvious to provide such a compound with Bennett to create the invention as claimed by applicant. The rationale would have been to utilize a known compound in a predictable fashion to provide the expected results of providing a buoyancy fluid for the underwater buoyancy element that is naturally in a gaseous state at ambient atmospheric temperature and pressure, and naturally in an entirely liquid state at the underwater depth to which the buoyancy element is immersed and has the specific characteristics recited, in order to provide a reliable buoyancy fluid for the element.

15. Claim 46 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bennett (US 4183316), in view of Leonard et al. (US 6772705 B2). Bennett discloses all claimed features as indicated above, with the exception of an immersed structure suspended from the buoyancy element by at least one cable. Bennett shows an object [10] suspended from the buoyancy element [12] and indicates only that the object is joined to the buoyancy element, but is silent on the means of joining or suspending the object. Leonard et al. discloses use of cables [11] for suspending an object [12] from a buoyancy element [14]. Therefore, it would have been obvious to provide at least one cable to suspend the object to the buoyancy element as an alternative means to join the object to the buoyancy element to create the invention as claimed by applicant. The rationale would have been to utilize a known means in a predictable fashion to provide the expected results of reliably suspending an object from the buoyancy element.

Allowable Subject Matter

16. Claims 49-69 and 74 are allowed.
17. Claims 70-73 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Response to Arguments

18. Applicant's arguments with respect to claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel V. Venne whose telephone number is (571) 272-7947. The examiner can normally be reached between 7:30AM - 4:00PM.
- If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Samuel J. Morano can be reached on (571) 272-6684. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DVV

/JESUS D. SOTELO/
Primary Examiner, Art Unit 3617
22 September 2008